

REMARKS

This Amendment and the following remarks respond to the Office Action mailed March 19, 2008, hereinafter “Office Action.” In the Office Action, claims 1-26 were examined and all claims were rejected. More specifically claims 7 and 14 stand as being objected to for informalities; and claims 1-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gupta et al., US Patent No. 6,438,562, hereinafter “Gupta,” in view of Blank et al., US Patent No. 5,842,208, hereinafter “Blank.”

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested.

In this Response, claims 1, 7, 14, 18, 20, and 24 have been amended, and no claims have been added or cancelled. Therefore, claims 1-26 remain present for examination.

Claim Objections

The Office Action objected to claims 7 and 14 for informalities. Claim 7 was objected to for a typographical error. More specifically, the claim recited “wherein the method is initiated by and index creation manager module”. Claim 7 has been amended to recite wherein the method is initiated by an index creation manager module. Applicants thank the Examiner for pointing out the typographical error.

Claim 14 was objected to for improper antecedent basis. Applicants have amended the claim to correct the antecedent basis issue. Claim 14 now recites the step of determining partition delimiters. In light of these amendments, Applicants respectfully request that the Examiner withdraw his objections.

Claim Rejections – 35 U.S.C. § 103(a)

Claims 1-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gupta in view of Blank. Applicants respectfully traverse the § 103(a) rejections because either the Examiner failed to state a *prima facie* case of obviousness or the current amendments to the claims now render the Examiner’s arguments moot. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed

limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974); *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Further, under *KSR Int'l Co. v. Teleflex, Inc.*, there “must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” 127 S. Ct. 1727, 1741 (2007). Neither Gupta nor Blank, either separately or in combination, teach or suggest all of the limitations of the recited claims.

Gupta relates to “a method, system, and product for coordinating parallel update for a global index of and indexed table.” (Gupta, Abstract). “Techniques for maintaining a global index of a table during parallel data manipulations operations involve a coordinator process, data manipulation slaves and index update slaves. The coordinator process *distributes* data manipulation operations among a plurality of data manipulation slaves.” (*Id.*, col. 8, ll. 1-6) (emphasis added). Gupta teaches a method using parallel DML (“PDML”) operations that accomplishes the “need to update a global index as a result of PDML operations without suffering the deficiencies of lost clustering, or contention for the same block, the latter leading to excessive waits or block pinging.” (*See id.*, col. 7, ll. 35-38).

Gupta teaches sorting maintenance records and determining a range by reading key values from the sorted maintenance records. (*See id.*, col. 15, ll. 35-67). A coordinator process then uses these ranges in distributing records to multiple slave processes. (*See id.*, col. 14, ll. 9-14). The slave processes use the maintenance records distributed by the coordinator process to update a global index. (*See id.*, col. 14, ll. 16-20).

Gupta fails to teach or suggest at least accessing the table records in parallel, wherein each processing unit accesses all of the records in the table of records. As noted above, Gupta does the opposite. First, Gupta determines a set of ranges of records by reading key values from a sorted table. After determining a set of ranges, Gupta teaches distributing the records, based upon the ranges they fall into, among multiple slave processes. The slave processes then perform maintenance *only* on the records which they receive. Clearly, Gupta does not teach or suggest accessing all of the records in the table of records. Indeed, the Office Action acknowledges this deficiency in Gupta. The Office Action states “Gupta teaches that each slave process receives *only the records within its ranges. . .*” (Office Action, p. 19) (emphasis

added). Claim 1 is currently amended to clarify that each processing unit accesses all of the records in the table of records. As noted by the Applicants and by the Office Action, Gupta does not teach or suggest this limitation.

Blank does not compensate for this deficiency. Blank relates to a “recover/build index system [that] builds an index for a file by scanning partitions of the file in parallel to retrieve key/rid values. The recover/build index system then sorts the scanned key/rid values for each partition in parallel.” (col. 1, ll. 37-41). After the data is sorted in parallel, a “merge program merges the sort streams received from the sort programs to create a merge stream. The merge program accepts the sort stream from two or more sort programs. The merge program then passes the merge stream to an index build program.” (col. 3, ll. 10-14). Thus, Blank teaches a method where a parallel sort is merged via combining the data streams produced by two or more sorts into a single data stream. Blank then performs *index creation on the single data stream*.

While multiple processing units are taught in Blank, the reference also teaches that each processing unit accesses only a portion of the table, i.e., each processing unit scans a single partition. Blank teaches,

[t]he scan programs 108 executing in parallel extract key values (of a particular key) and record identifiers (rids) or pointers from the partitions 120 to create a key/rid or scan stream *for each partition 112*. (Blank, col. 2, l. 64 – col. 3, l.1) (emphasis added).

The scan programs in Blank are only assigned a particular partition of the table, not all of the records in the table of records. Thus, Blank also fails to teach or suggest accessing the table records in parallel, wherein each processing unit accesses all of the records in the table of records.

For at least similar reasons, both Gupta and Blank also fail to teach or suggest the other independent claims. For example, independent claim 14 recites, *inter alia*, wherein each of the respective processing units accesses all of the records in the table of records. Independent claim 18 recites, *inter alia*, the first processing unit accessing every record in a table record and determining whether the table record is associated with the at least one partition dedicated to the first processing unit.

Independent claim 20 recites, *inter alia*, accessing the table records in parallel, wherein each processing unit accesses all of the records in the table of records. Finally, independent claim 24 recites, *inter alia*, an access module that accesses all of the data records from the table of data records.

For at least the forgoing reasons, neither Gupta nor Blank, alone or in combination, teach all of the limitations of independent claims 1, 14, 18, 20, and 24 and therefore cannot anticipate or make obvious the present invention as claimed. Claims 1, 14, 18, 20, and 24 are allowable over the references of record and should be allowed. All other claims, *i.e.*, claims 2-13, 15-17, 19, 21-23, and 25-26 depend from one of the allowable independent claims and are, thus, also allowable over the prior art of record. Therefore, Applicants respectfully request that the Examiner issue a notice of allowance, for all claims, at his earliest convenience.

Conclusion

This Amendment fully responds to the Office Action mailed on March 19, 2008. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Amendment to directly address an argument raised in the Office Action should not be taken as an indication that the Applicants believe the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment, which are not shown, taught, or otherwise suggested by the art of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance, and such action is respectfully requested. Should any additional

issues need to be resolved, the Examiner is respectfully requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,



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